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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/620,902	07/16/2003	Young-Soo Kwon	0001417USU	8950

7590 04/20/2005

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EXAMINER

LANGEL, WAYNE A

ART UNIT	PAPER NUMBER
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1754

DATE MAILED: 04/20/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/620,902

Applicant(s)

KWON ET AL.

Examiner

Wayne Langel

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-13 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-13 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. ____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 2-19-04.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: ____.

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The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ellis in view of Satchell, Jr. et al '156 or Coronell et al or Woytek et al. Ellis discloses a process for conducting a chemical reaction characterized by an equilibrium in a reaction system designed as a loop reactor, and teach at col. 2, lines 20-47 that the solution equilibria include equilibria for dissolving gaseous reactants in liquid reaction systems. Ellis teaches at col. 4, lines 9-20 that at the inlet of the loop 2, 22 into the reactor vessel 1, there may be located a means for feeding the circulating the reaction material into the reactor vessel, which may include jet nozzles or suction gas mixers which provide a certain turbulence when feeding the reaction material into the reactor vessel 1 and thereby substantially improving the contact between the gas and liquid in a gas liquid reaction. The difference between the process disclosed by Ellis, and that recited in applicant's claims, is that Ellis does not disclose that the gas liquid reaction should constitute the reaction between a fused ammonium fluoride salt with fluorine gas to produce nitrogen trifluoride. Satchell, Jr. et al '156, Coronell and Woytek et al all disclose the reaction between fused ammonium fluoride salt with fluorine gas to produce nitrogen trifluoride, and teach that the reactants should be intimately mixed. (See the Abstracts of Satchell, Jr. et al '156 and Coronell et al, and col. 2, line 48 to col. 4, line 43 of Woytek et al) It would be obvious from Satchell, Jr. et al '156 or Coronell et al

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or Woytek et al to employ the process of Ellis for the production of nitrogen trifluoride by contacting a fused ammonium fluoride salt with fluorine gas, since Ellis teaches that the method may be employed for gas-liquid reactions, and Satchell, Jr. et al '156, Coronell and Woytek et al all disclose that fluorine should be intimately mixed with a fused ammonium fluoride salt to increase the yield of the nitrogen trifluoride product.

The other references are made of record for disclosing various methods for preparing nitrogen trifluoride.

Any inquiry concerning this communication should be directed to Wayne Langel at telephone number 571-272-1353.

A handwritten signature in black ink that reads "Wayne A. Langel". The signature is written in a cursive, flowing style.

Wayne Langel
Primary Examiner
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